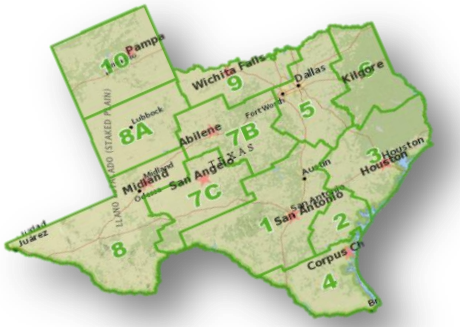
RAILROAD COMMISSION OF TEXAS

Online Research Queries and the GIS Map Viewer



Mark Maddox

GIS Mapping History

As part of its mandate to regulate the drilling and production of the oil and gas industry in Texas, the RRC maintains maps showing historical, current, and proposed well locations. In the past, manually drawn maps were used. The hardcopy maps became worn and overcrowded with handwritten data. In most cases, copies could not be made for the public because the base maps were copyrighted.

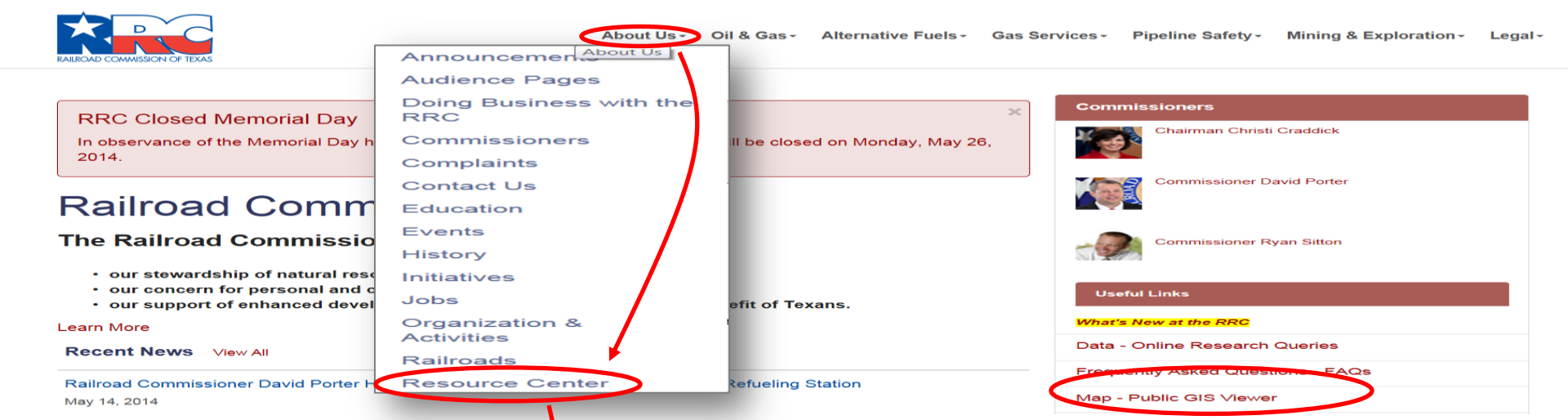
1984 - The RRC began building its computerized well location mapping system.

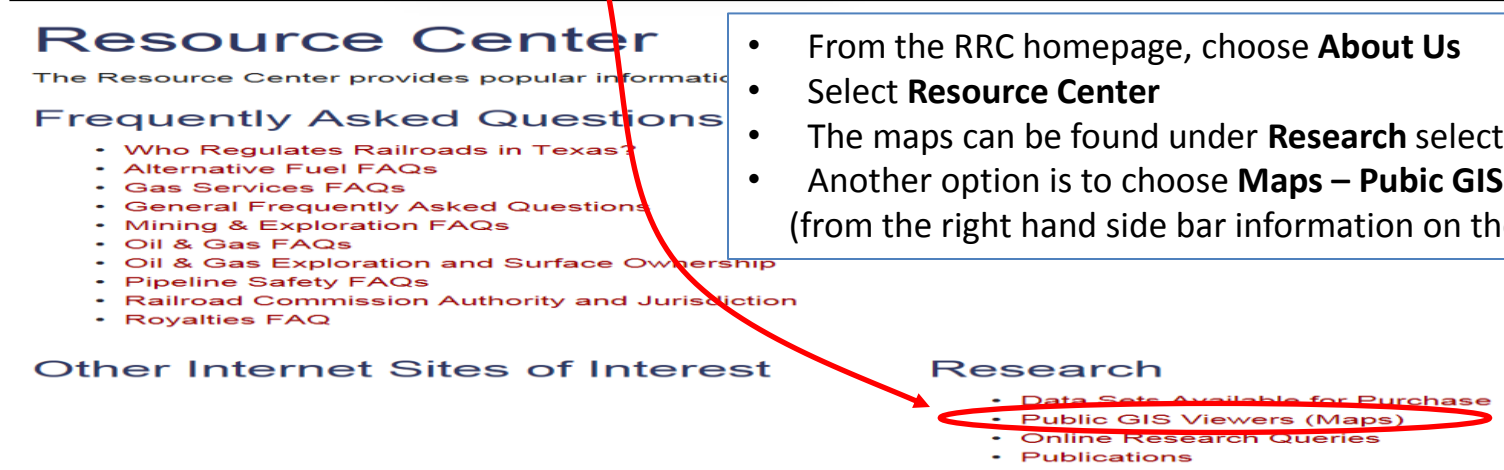
1994 - The base map and original Texas land survey data layers were completed.

1995 - The well data layer was completed.

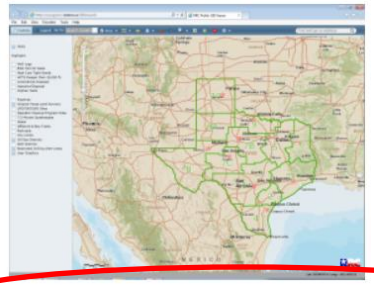
1999 - The computerized mapping database was converted to ESRI Arc/Info GIS software.

July 2002, the well data layer contained 1,081,409 wells and/or permitted locations with 680,634 API numbers linked to well locations in the well data layer.





- From the RRC homepage, choose **About Us**
- Select **Resource Center**
- The maps can be found under **Research** select Public GIS Viewer
- Another option is to choose **Maps – Pubic GIS Map Viewer** (from the right hand side bar information on the home page)



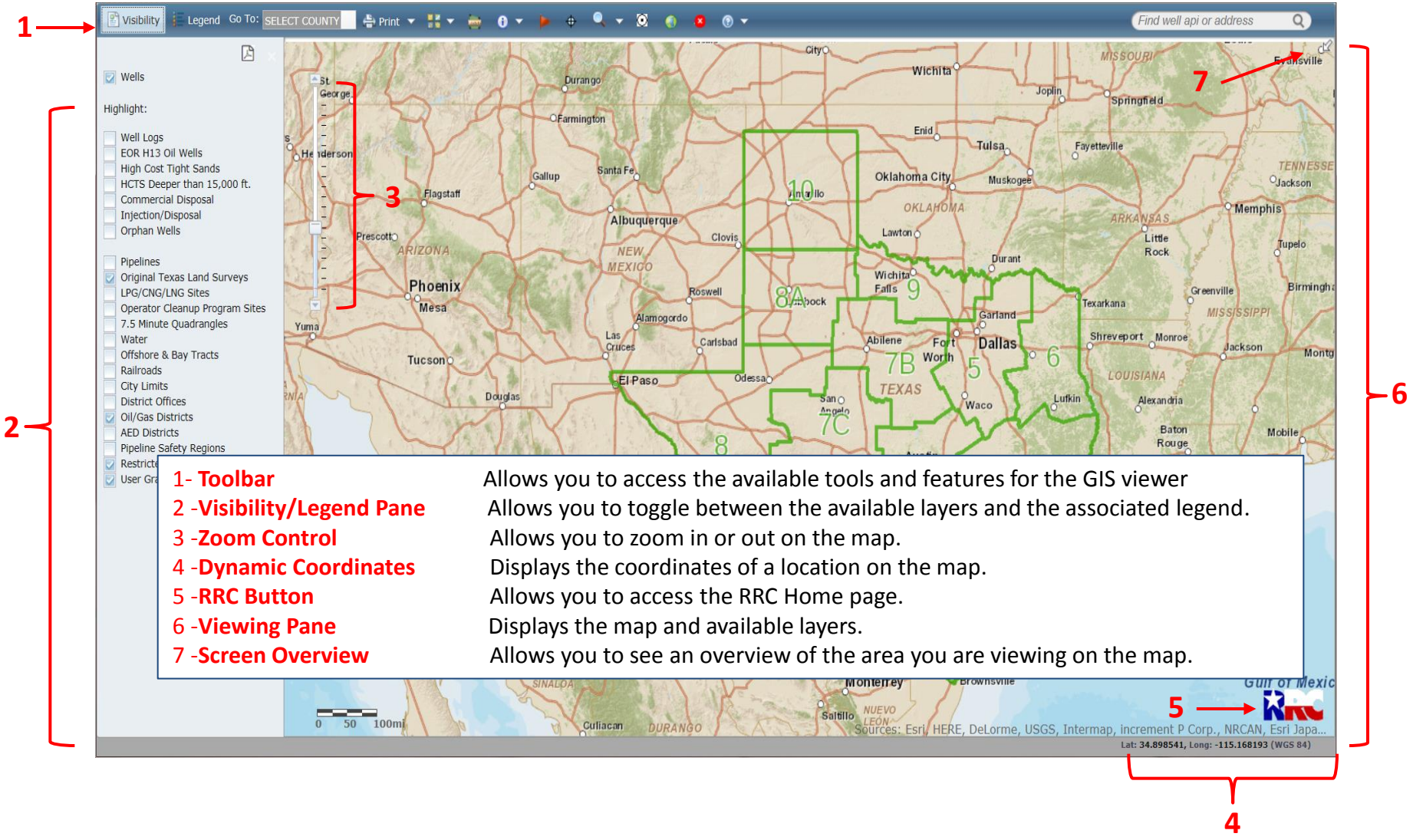
Launch Public GIS Viewer

The following training videos provide step-by-step instruction for new features of the Public GIS Viewer. The videos will open in a separate window, allowing you to toggle between the video and viewer. **Note: These videos do not contain audio.**

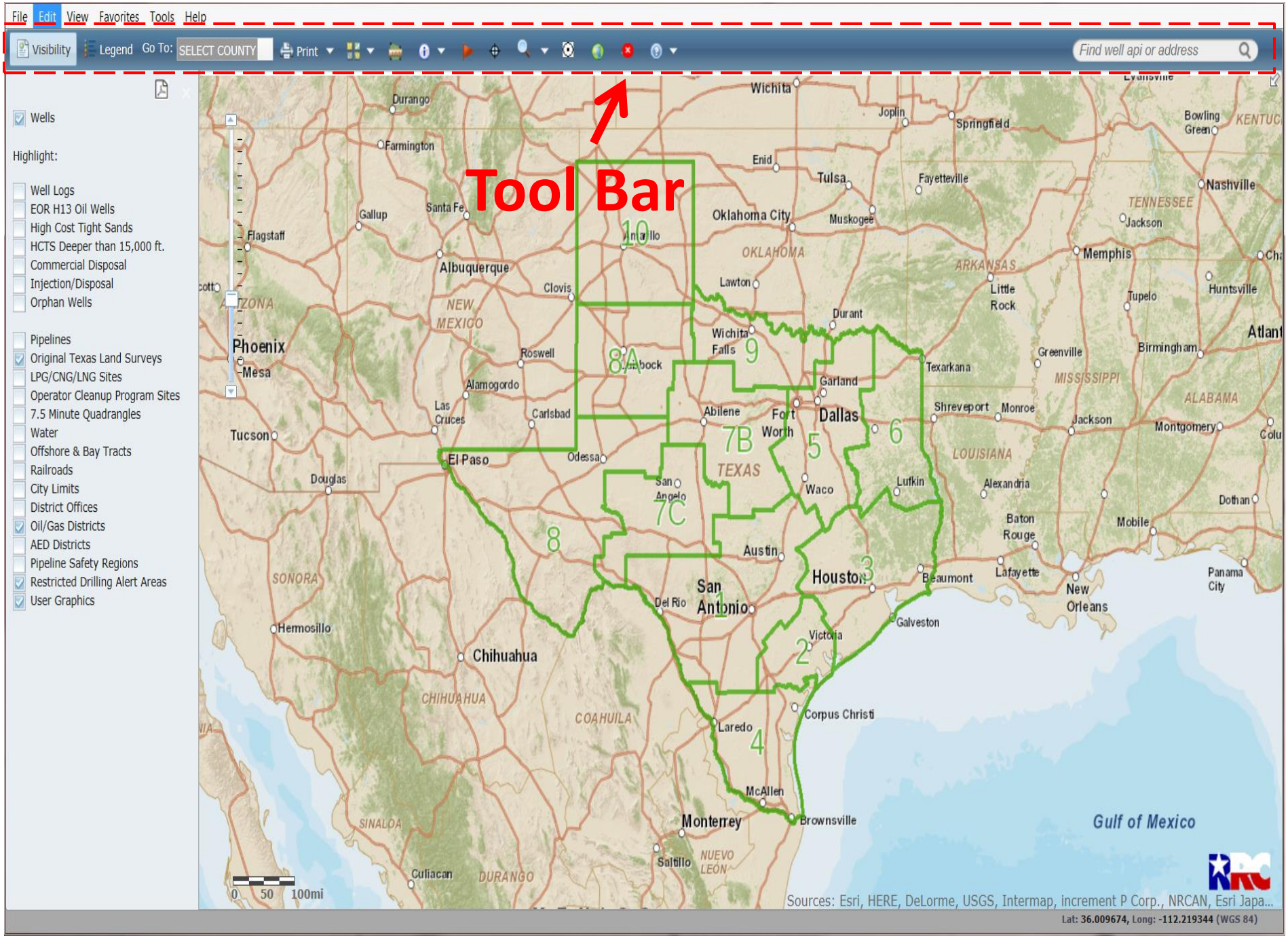
- API# or Address Search
- Survey Search
- Locating Pipelines
- Viewing Coordinates

The Public GIS Viewer contains the combined functionality of the Legacy GIS Viewer and the newer appearance of the Enhanced GIS Viewer. In addition, the viewer has been improved with the addition of the following features and is updated nightly.

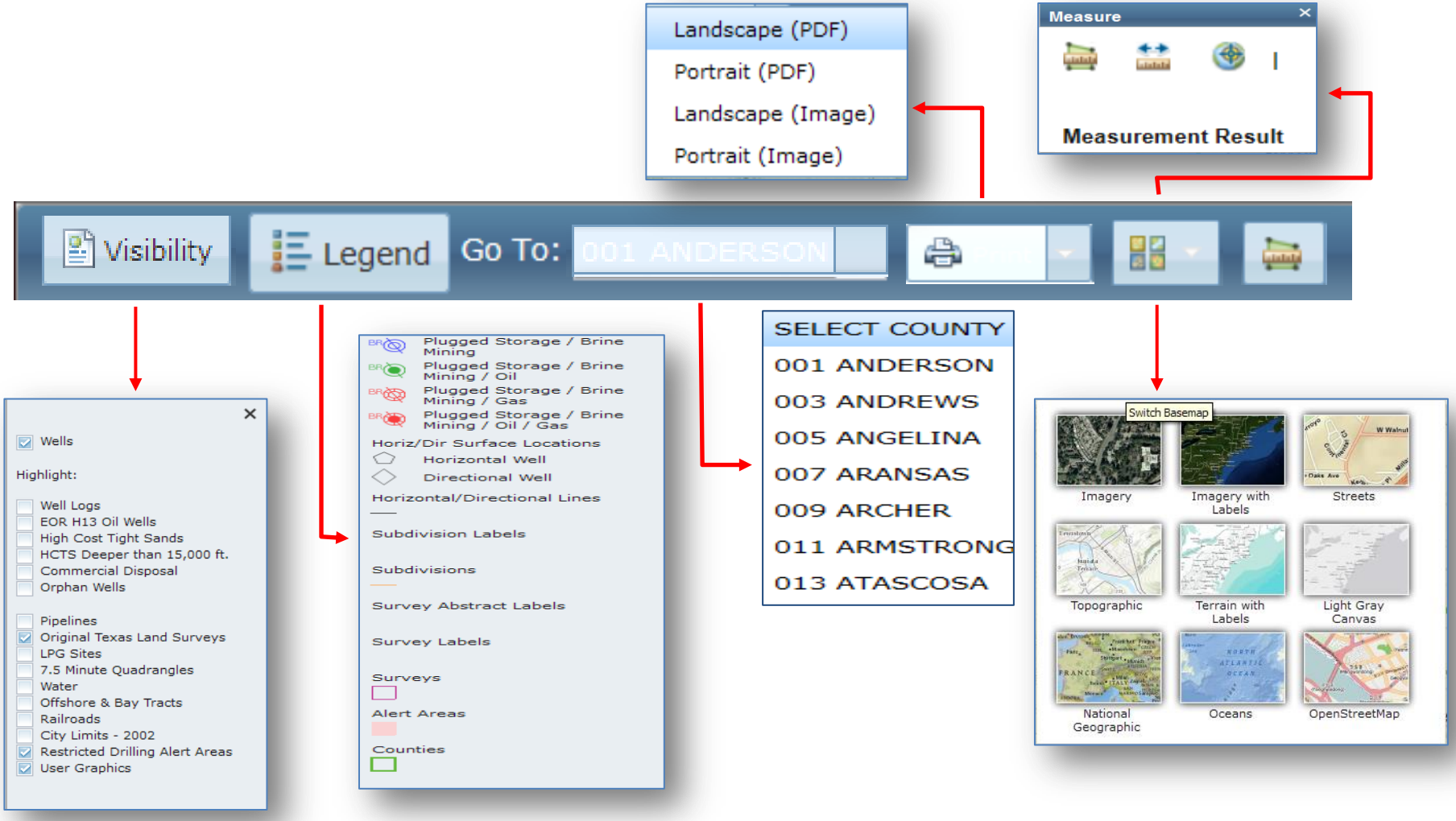
Screen Overview



1- **Toolbar**	Allows you to access the available tools and features for the GIS viewer
2 -**Visibility/Legend Pane**	Allows you to toggle between the available layers and the associated legend.
3 -**Zoom Control**	Allows you to zoom in or out on the map.
4 -**Dynamic Coordinates**	Displays the coordinates of a location on the map.
5 -**RRC Button**	Allows you to access the RRC Home page.
6 -**Viewing Pane**	Displays the map and available layers.
7 -**Screen Overview**	Allows you to see an overview of the area you are viewing on the map.


File
Edit
View
Favorites
Tools
Help
Visibility
Legend
Go To:
SELECT COUNTY
Print
Find well api or address
Tool Bar
Wells
Highlight:
Well Logs
EOR H13 Oil Wells
High Cost Tight Sands
HCTS Deeper than 15,000 ft.
Commercial Disposal
Injection/Disposal
Orphan Wells
Pipelines
Original Texas Land Surveys
LPG/CNG/LNG Sites
Operator Cleanup Program Sites
7.5 Minute Quadrangles
Water
Offshore & Bay Tracts
Railroads
City Limits
District Offices
Oil/Gas Districts
AED Districts
Pipeline Safety Regions
Restricted Drilling Alert Areas
User Graphics
Wichita
Durango
Farmington
Gallup
Santa Fe
Flagstaff
Albuquerque
Clovis
Phoenix
Mesa
Tucson
Roswell
Alamogordo
Las Cruces
Carlsbad
El Paso
Douglas
Odessa
Abilene
Fort Worth
Dallas
Garland
Wichita Falls
Lawton
Durant
Oklahoma City
Enid
Tulsa
Joplin
Springfield
Fayetteville
Muskogee
Texarkana
Little Rock
Memphis
Nashville
Bowling Green
Jackson
Tupelo
Huntsville
Birmingham
Greenville
Shreveport
Monroe
Jackson
Montgomery
Waco
Lufkin
Alexandria
Baton Rouge
Mobile
Dothan
Austin
San Antonio
Houston
Beaumont
Lafayette
New Orleans
Galveston
Victoria
Corpus Christi
Laredo
McAllen
Brownsville
Del Rio
San Angelo
Hermosillo
Chihuahua
Monterrey
Saltillo
Culiacan
Gulf of Mexico
NEW MEXICO
OKLAHOMA
TEXAS
ARKANSAS
LOUISIANA
MISSISSIPPI
ALABAMA
TENNESSEE
KENTUCKY
SONORA
CHIHUAHUA
COAHUILA
SINALOA
DURANGO
NUEVO LEÓN
10
8A
9
7B
7C
8
5
6
4
2
1
3
0 50 100mi
Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japa...
Lat: 36.009674, Long: -112.219344 (WGS 84)

Tool Bar


Landscape (PDF)
Portrait (PDF)
Landscape (Image)
Portrait (Image)
Measure
Measurement Result
Visibility
Legend
Go To:
001 ANDERSON
Wells
Highlight:
Well Logs
EOR H13 Oil Wells
High Cost Tight Sands
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Pipelines
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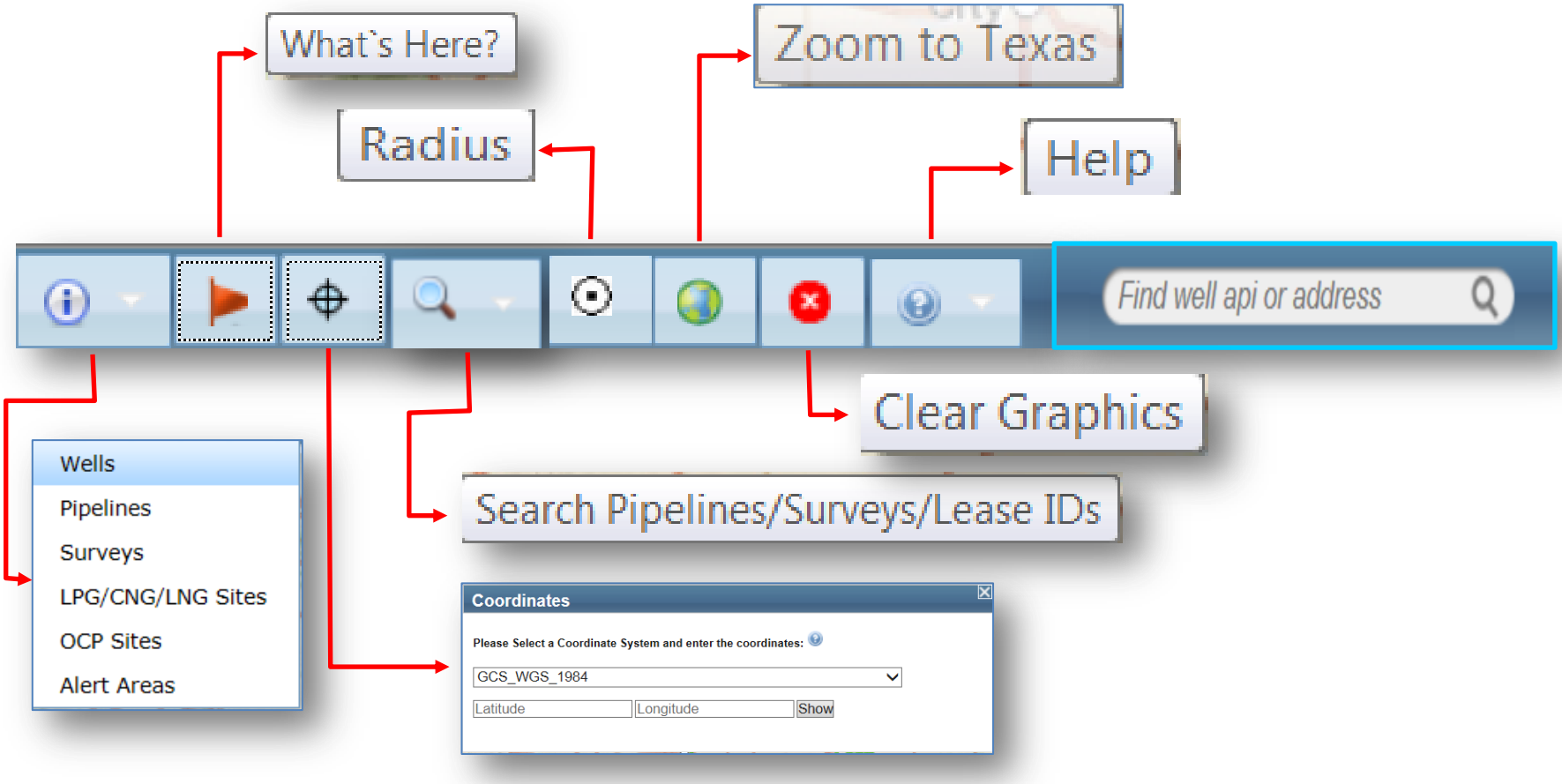
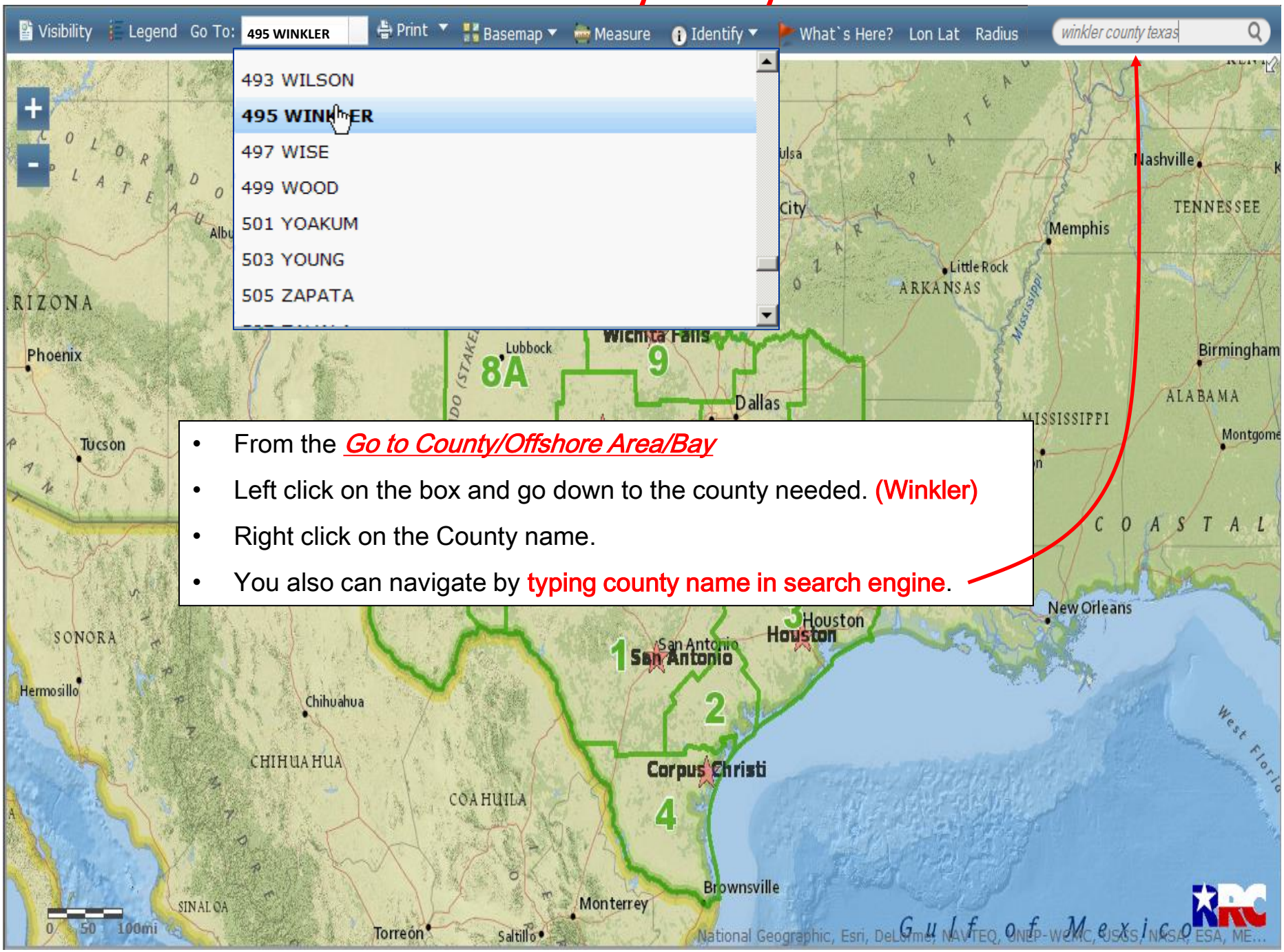
LPG Sites
7.5 Minute Quadrangles
Water
Offshore & Bay Tracts
Railroads
City Limits - 2002
Restricted Drilling Alert Areas
User Graphics
Plugged Storage / Brine Mining
Plugged Storage / Brine Mining / Oil
Plugged Storage / Brine Mining / Gas
Plugged Storage / Brine Mining / Oil / Gas
Horiz/Dir Surface Locations
Horizontal Well
Directional Well
Horizontal/Directional Lines
Subdivision Labels
Subdivisions
Survey Abstract Labels
Survey Labels
Surveys
Alert Areas
Counties
SELECT COUNTY
001 ANDERSON
003 ANDREWS
005 ANGELINA
007 ARANSAS
009 ARCHER
011 ARMSTRONG
013 ATASCOSA
Switch Basemap
Imagery
Imagery with Labels
Streets
Topographic
Terrain with Labels
Light Gray Canvas
National Geographic
Oceans
OpenStreetMap

Tool Bar

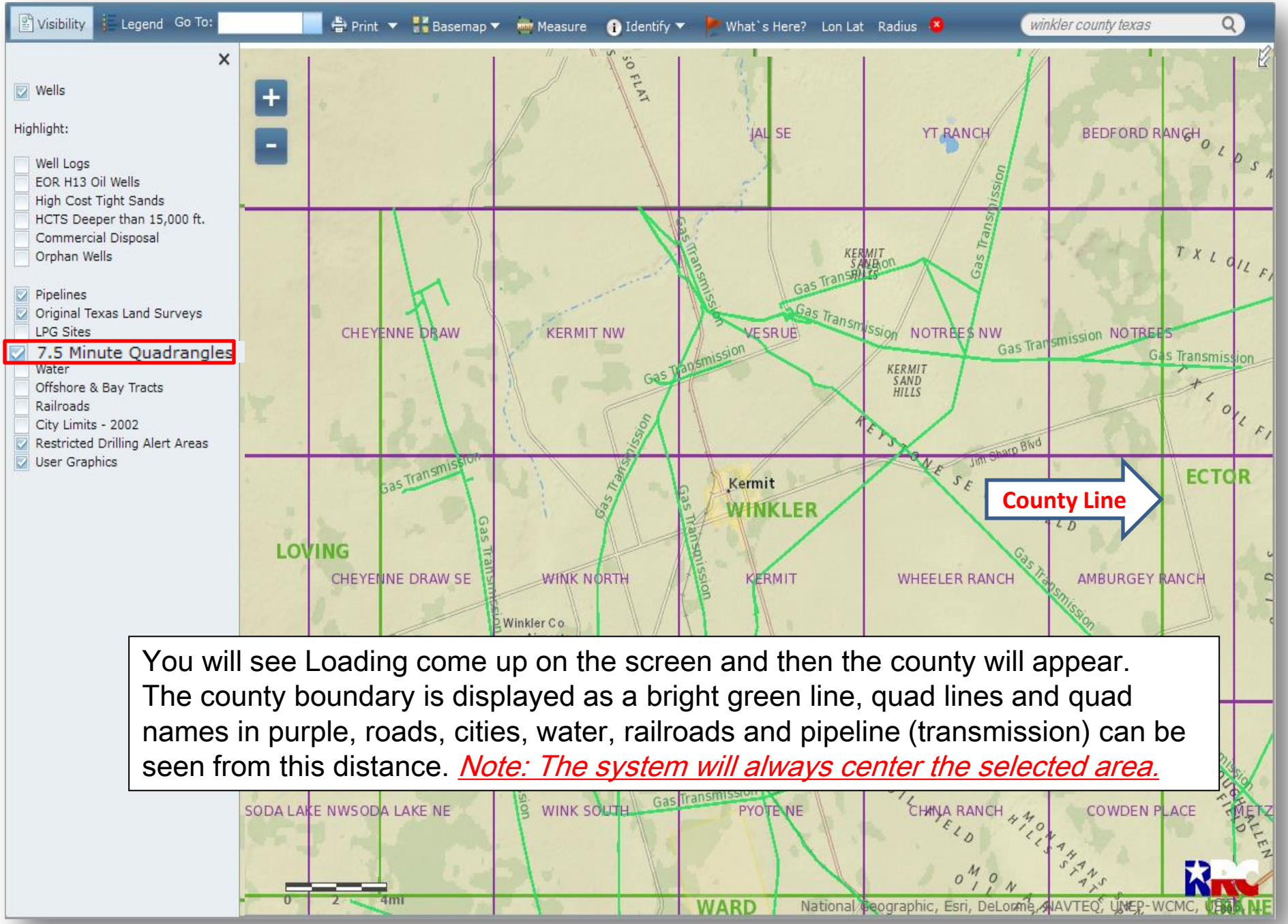

What`s Here?
Radius
Zoom to Texas
Help
Find well api or address
Clear Graphics
Search Pipelines/Surveys/Lease IDs
Wells
Pipelines
Surveys
LPG/CNG/LNG Sites
OCP Sites
Alert Areas
Coordinates
Please Select a Coordinate System and enter the coordinates:
GCS_WGS_1984
Latitude
Longitude
Show

Search By: County



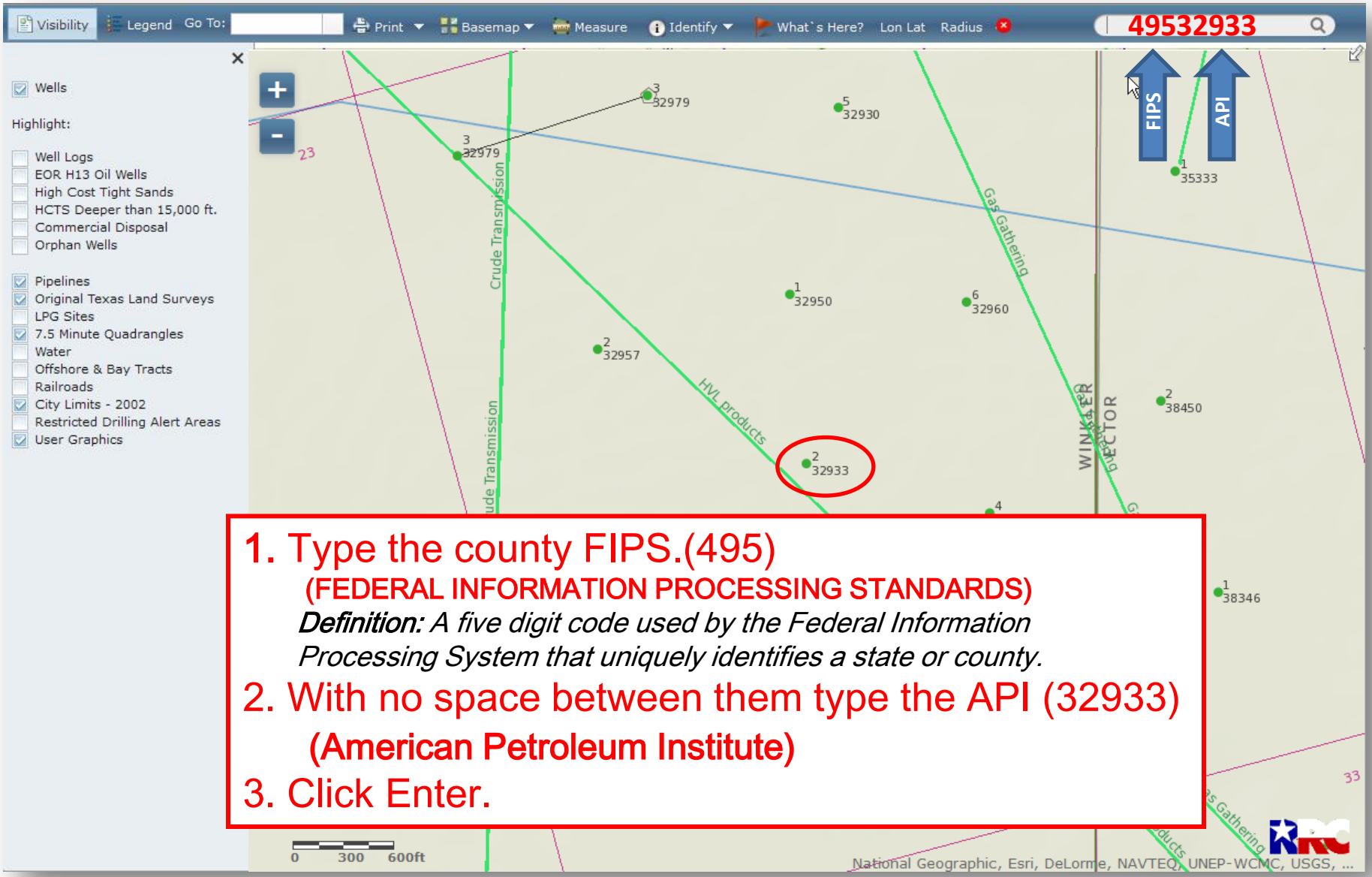
- From the *Go to County/Offshore Area/Bay*
- Left click on the box and go down to the county needed. (Winkler)
- Right click on the County name.
- You also can navigate by typing county name in search engine.

Search By: County



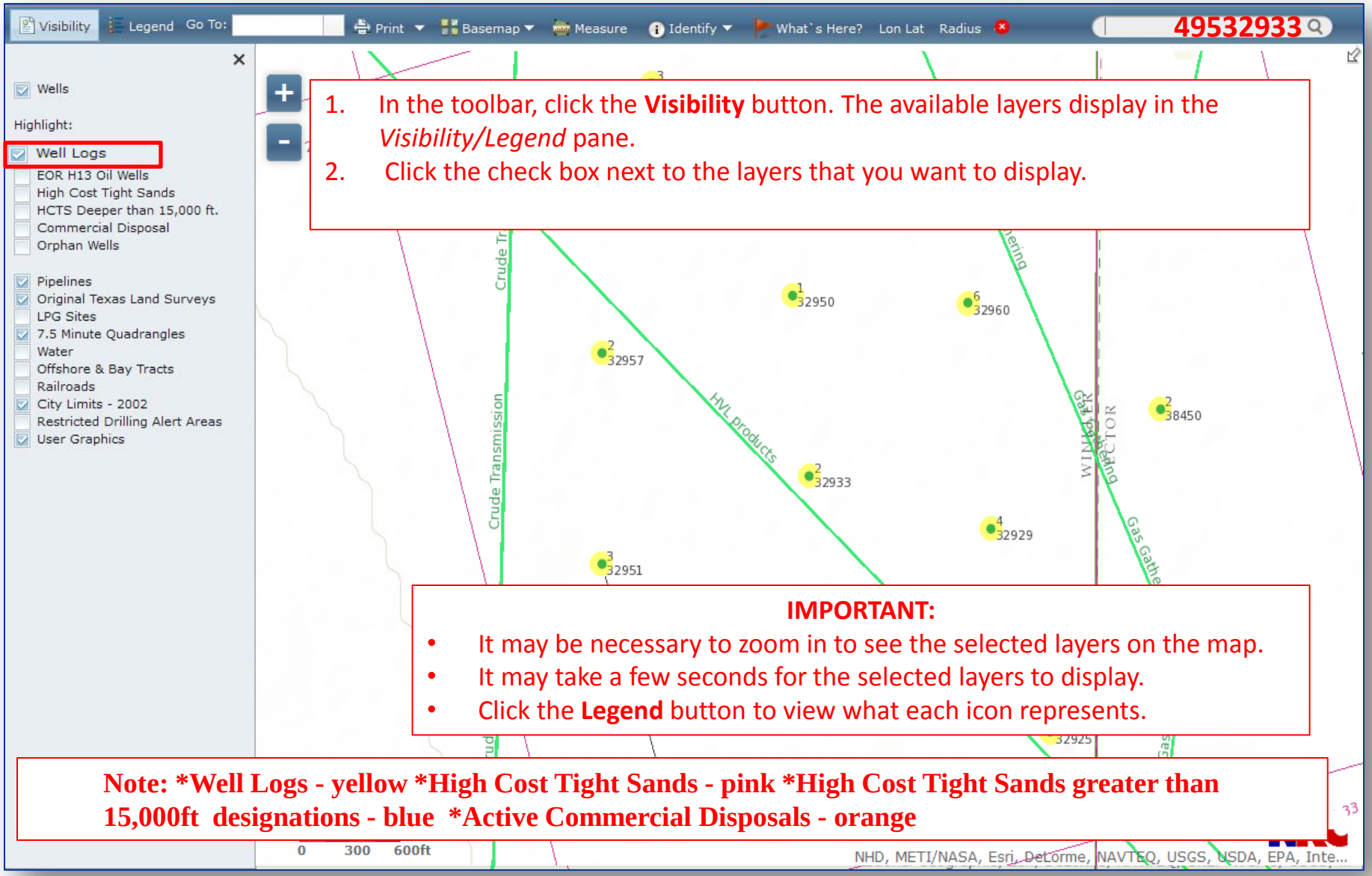
You will see Loading come up on the screen and then the county will appear. The county boundary is displayed as a bright green line, quad lines and quad names in purple, roads, cities, water, railroads and pipeline (transmission) can be seen from this distance. *Note: The system will always center the selected area.*

Search By: Wellbore API Number



1. Type the county FIPS.(495)
   (FEDERAL INFORMATION PROCESSING STANDARDS)
   Definition: *A five digit code used by the Federal Information Processing System that uniquely identifies a state or county.*
2. With no space between them type the API (32933)
   (American Petroleum Institute)
3. Click Enter.

Visibility Tool

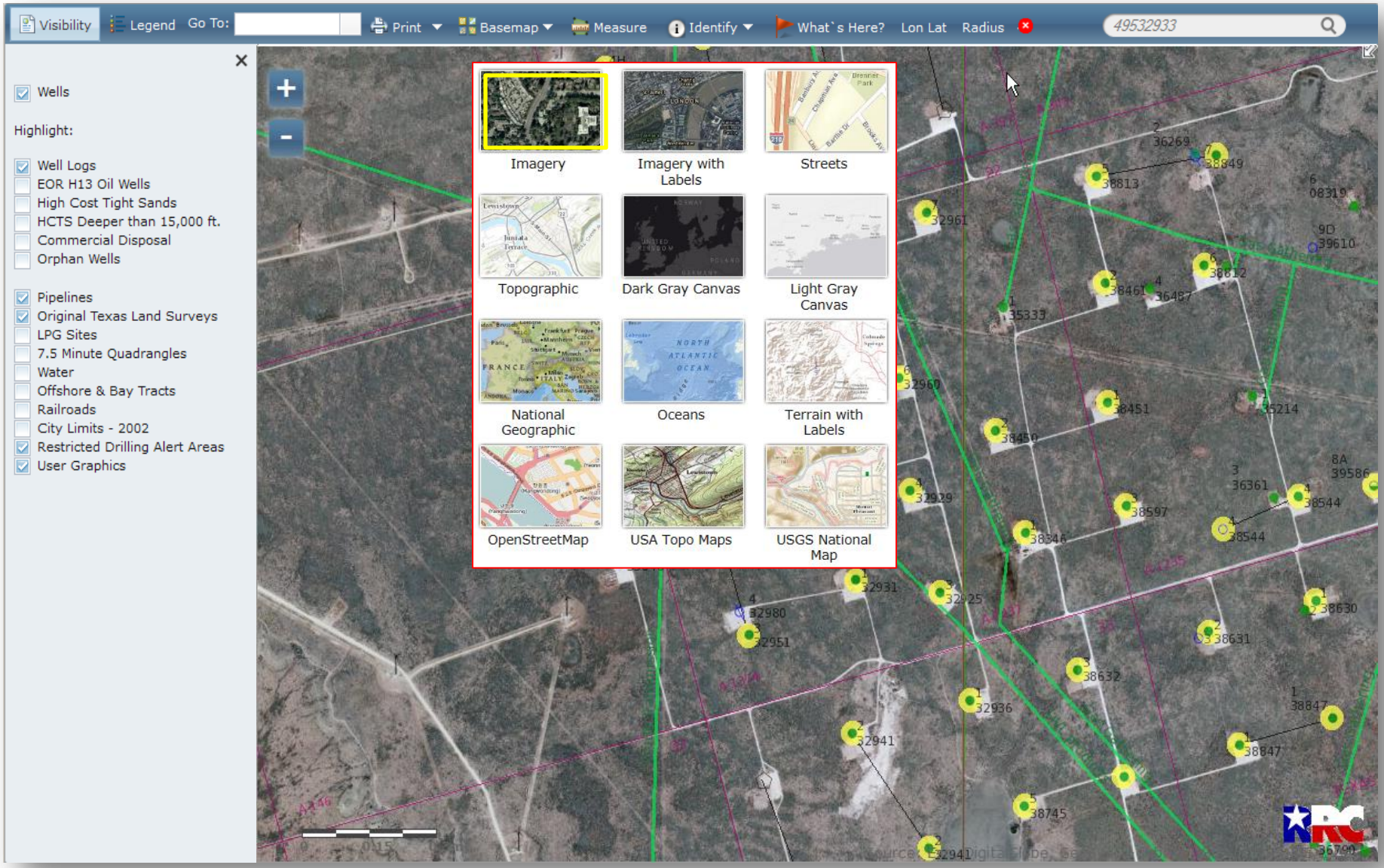


IMPORTANT:

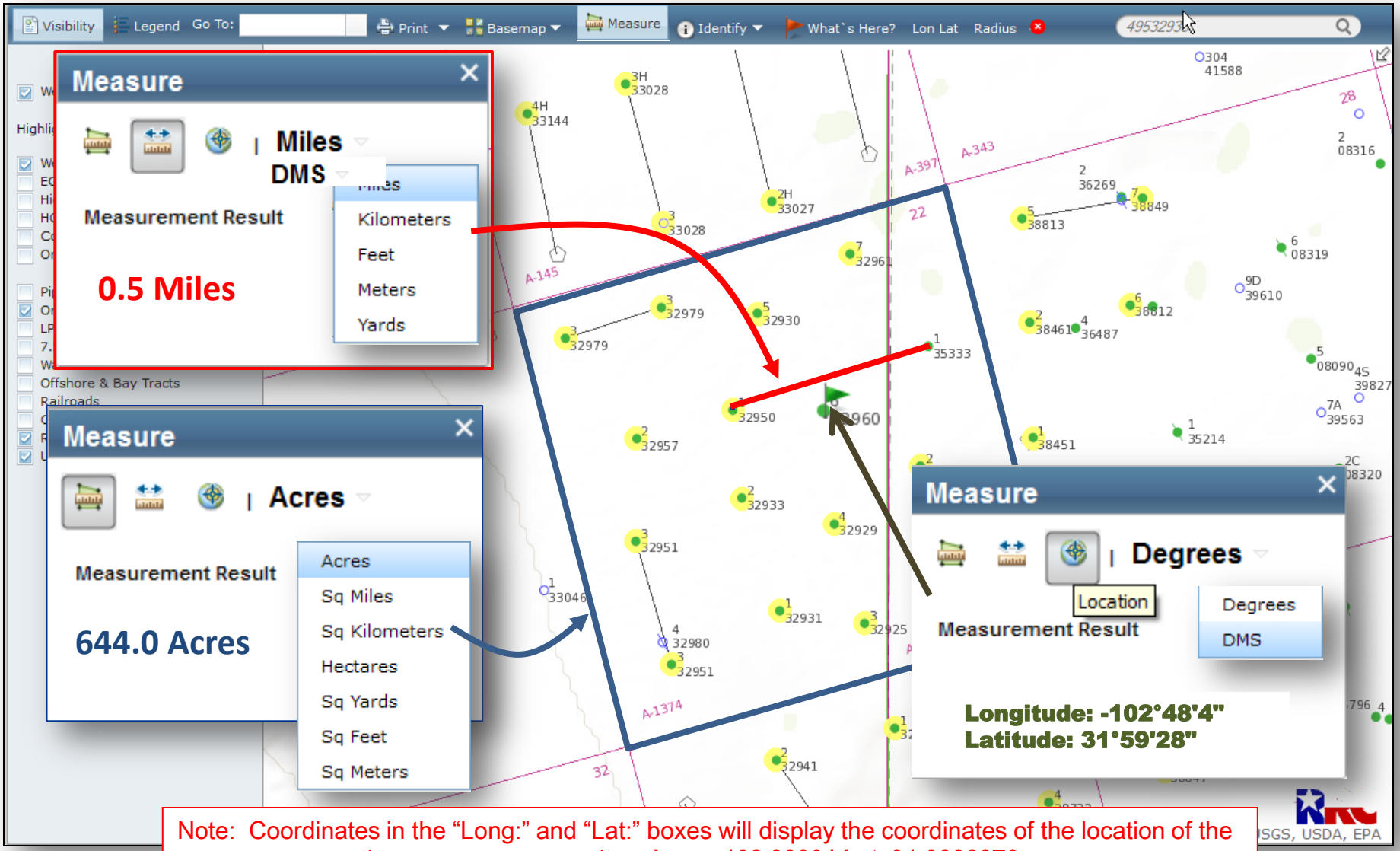
- It may be necessary to zoom in to see the selected layers on the map.
- It may take a few seconds for the selected layers to display.
- Click the **Legend** button to view what each icon represents.

Note: *Well Logs - yellow *High Cost Tight Sands - pink *High Cost Tight Sands greater than 15,000ft designations - blue *Active Commercial Disposals - orange

Basemap Tool

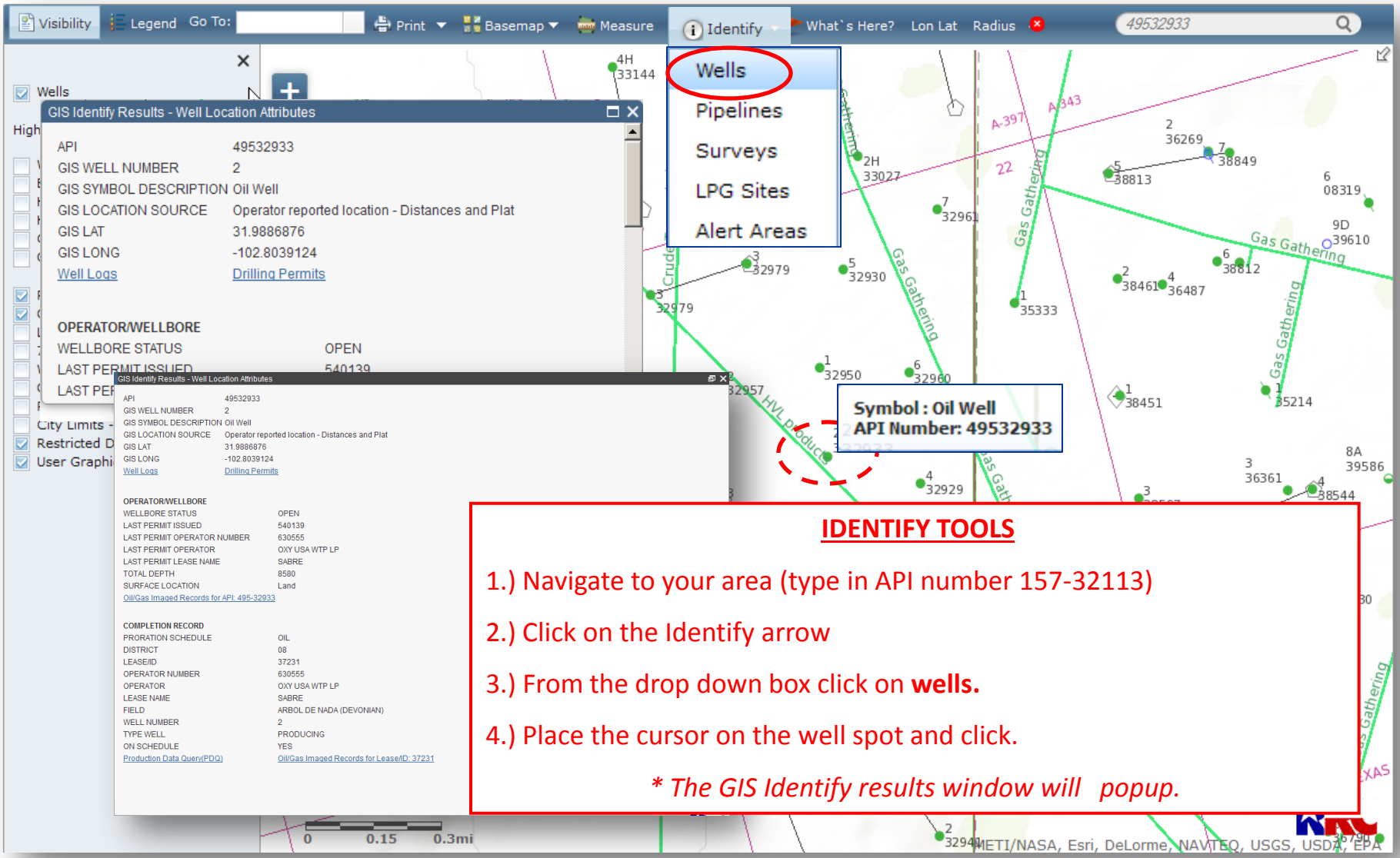


Measure Tool



Note: Coordinates in the "Long:" and "Lat:" boxes will display the coordinates of the location of the cursor on the map as you move it. Long.-102.80391 Lat. 31.9886876

Identify Tool



IDENTIFY TOOLS

1.) Navigate to your area (type in API number 157-32113)

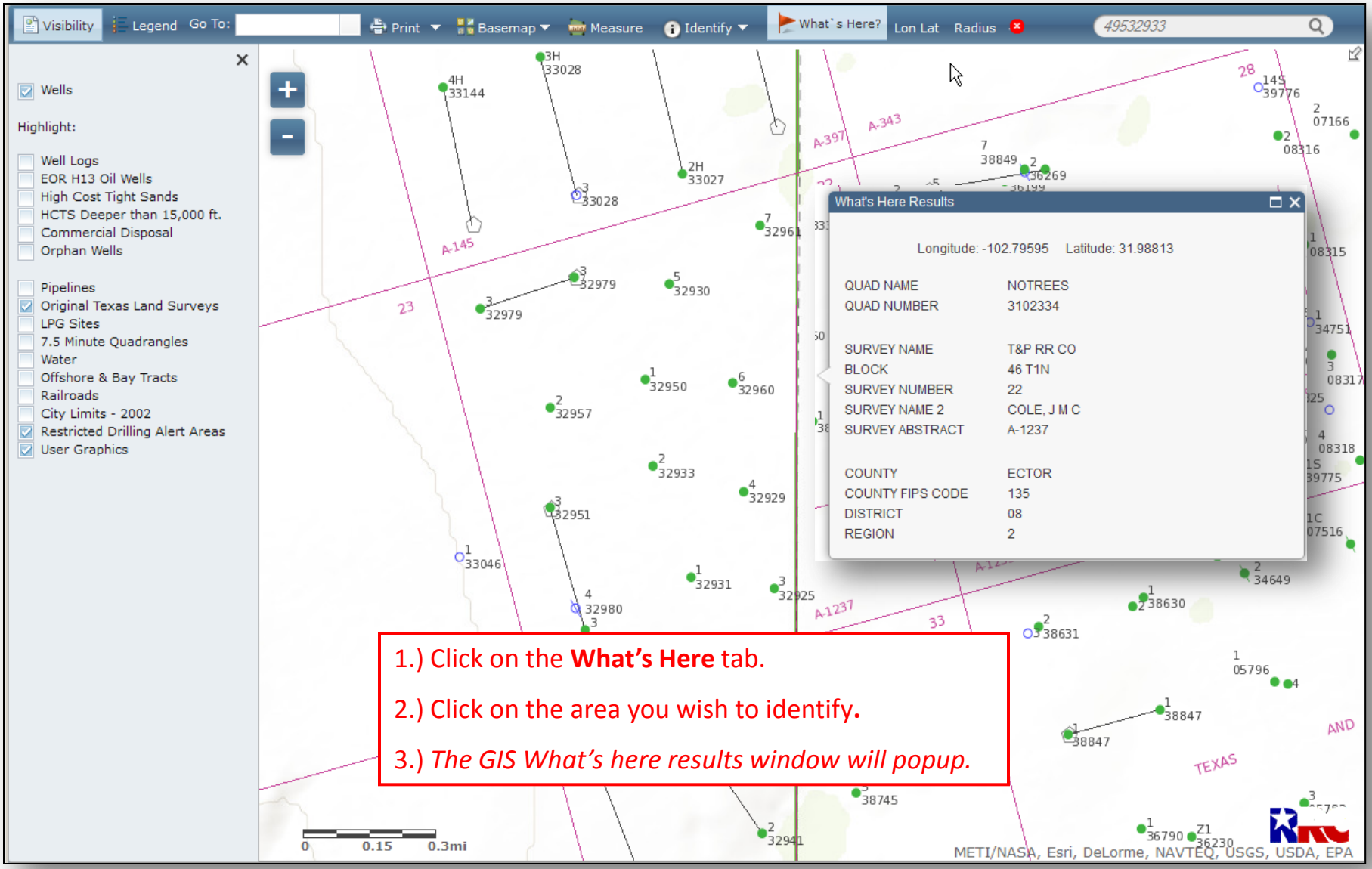
2.) Click on the Identify arrow

3.) From the drop down box click on **wells.**

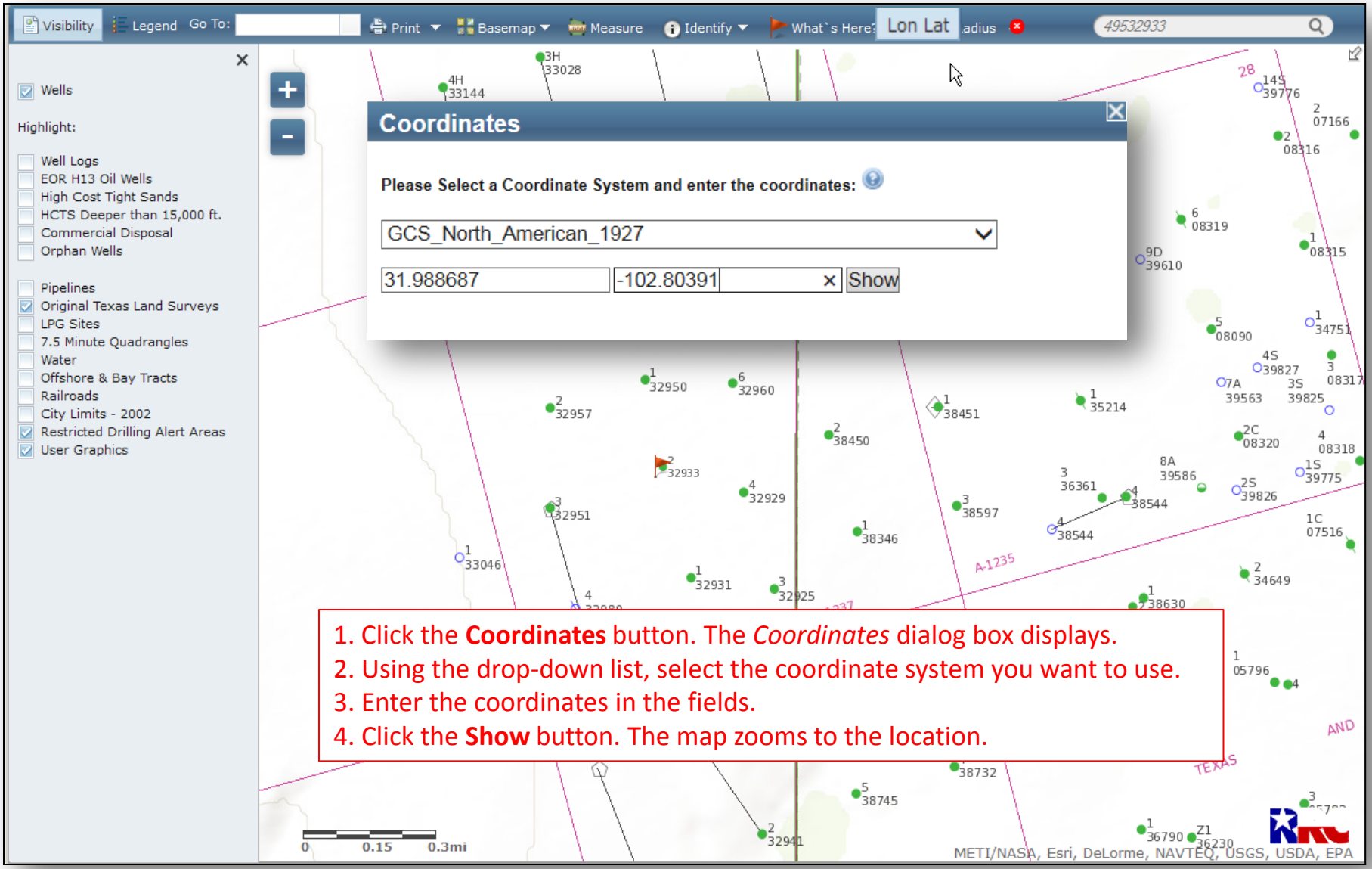
4.) Place the cursor on the well spot and click.

** The GIS Identify results window will popup.*

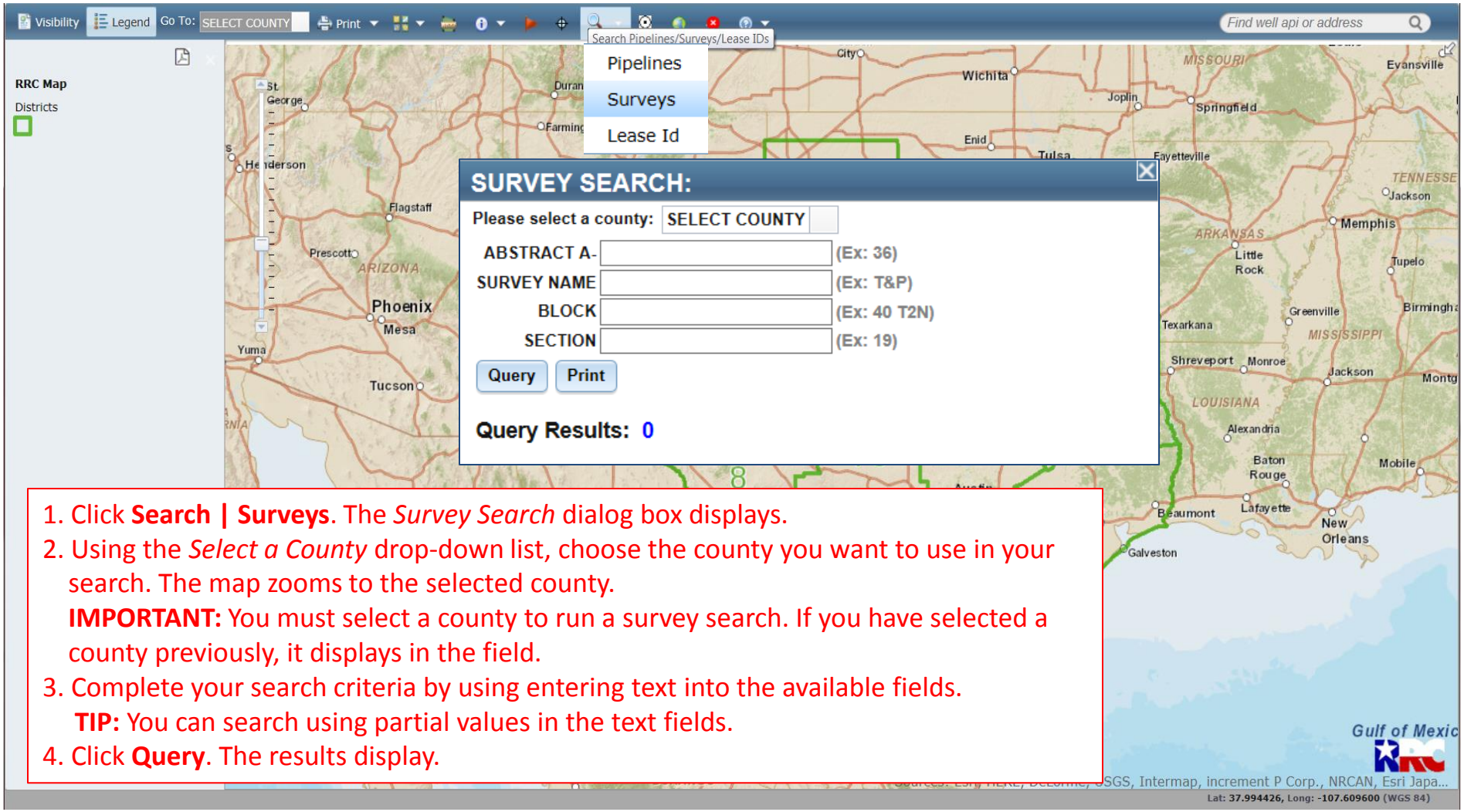
What's Here? Tool



Coordinates Tool

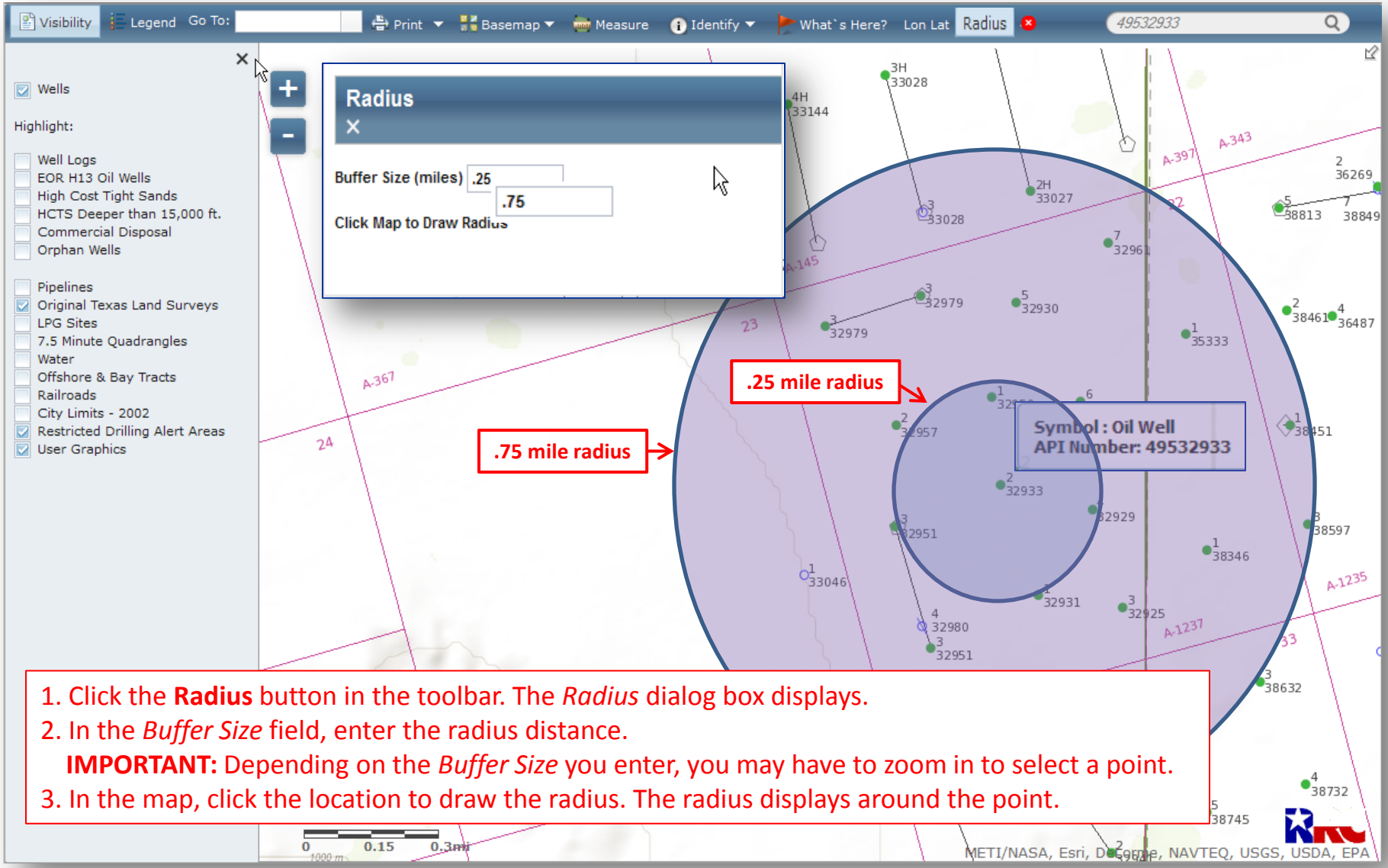


Search Tool



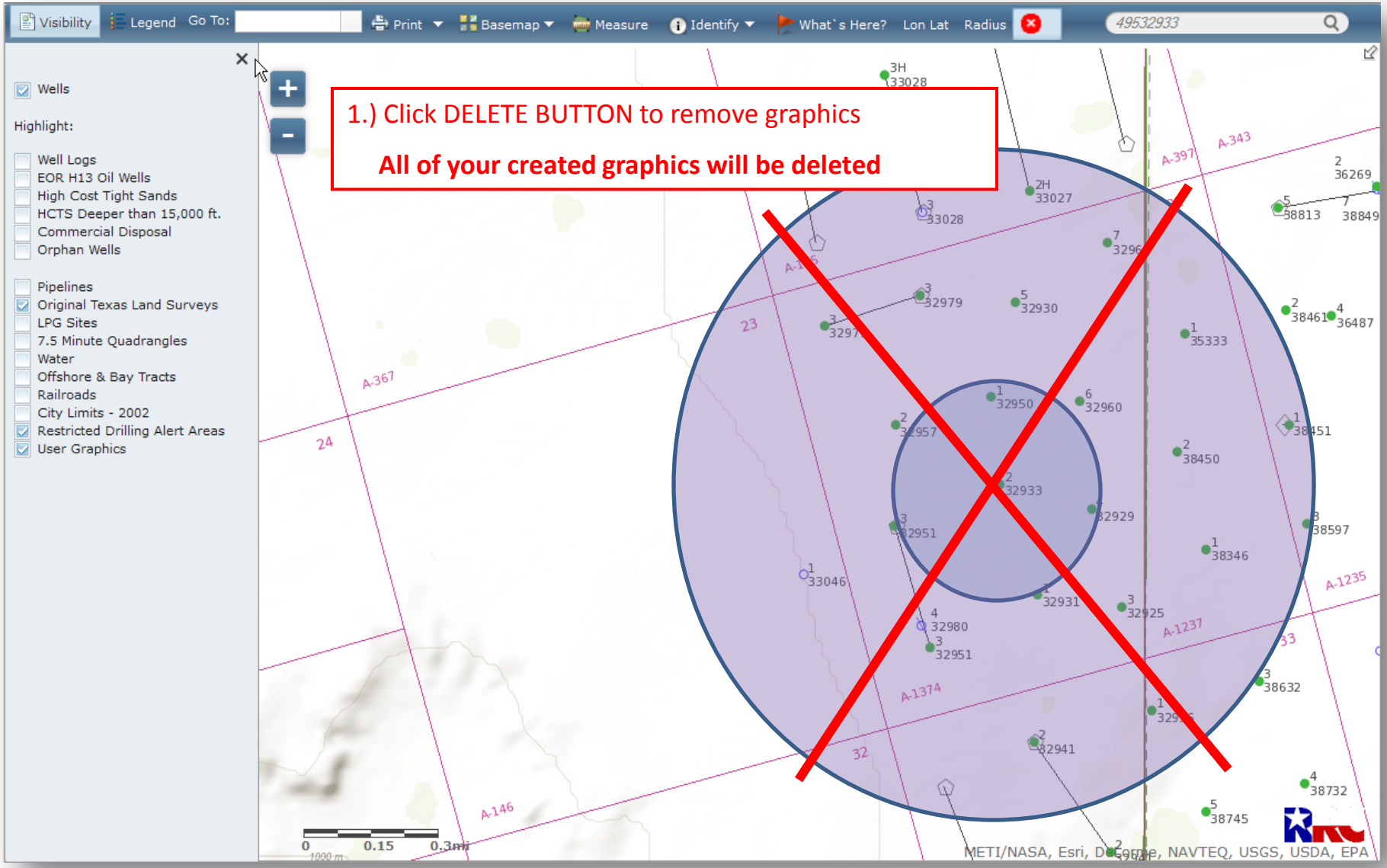
1. Click **Search | Surveys**. The *Survey Search* dialog box displays.
2. Using the *Select a County* drop-down list, choose the county you want to use in your search. The map zooms to the selected county.
   IMPORTANT: You must select a county to run a survey search. If you have selected a county previously, it displays in the field.
3. Complete your search criteria by using entering text into the available fields.
   TIP: You can search using partial values in the text fields.
4. Click **Query**. The results display.

Radius Tool

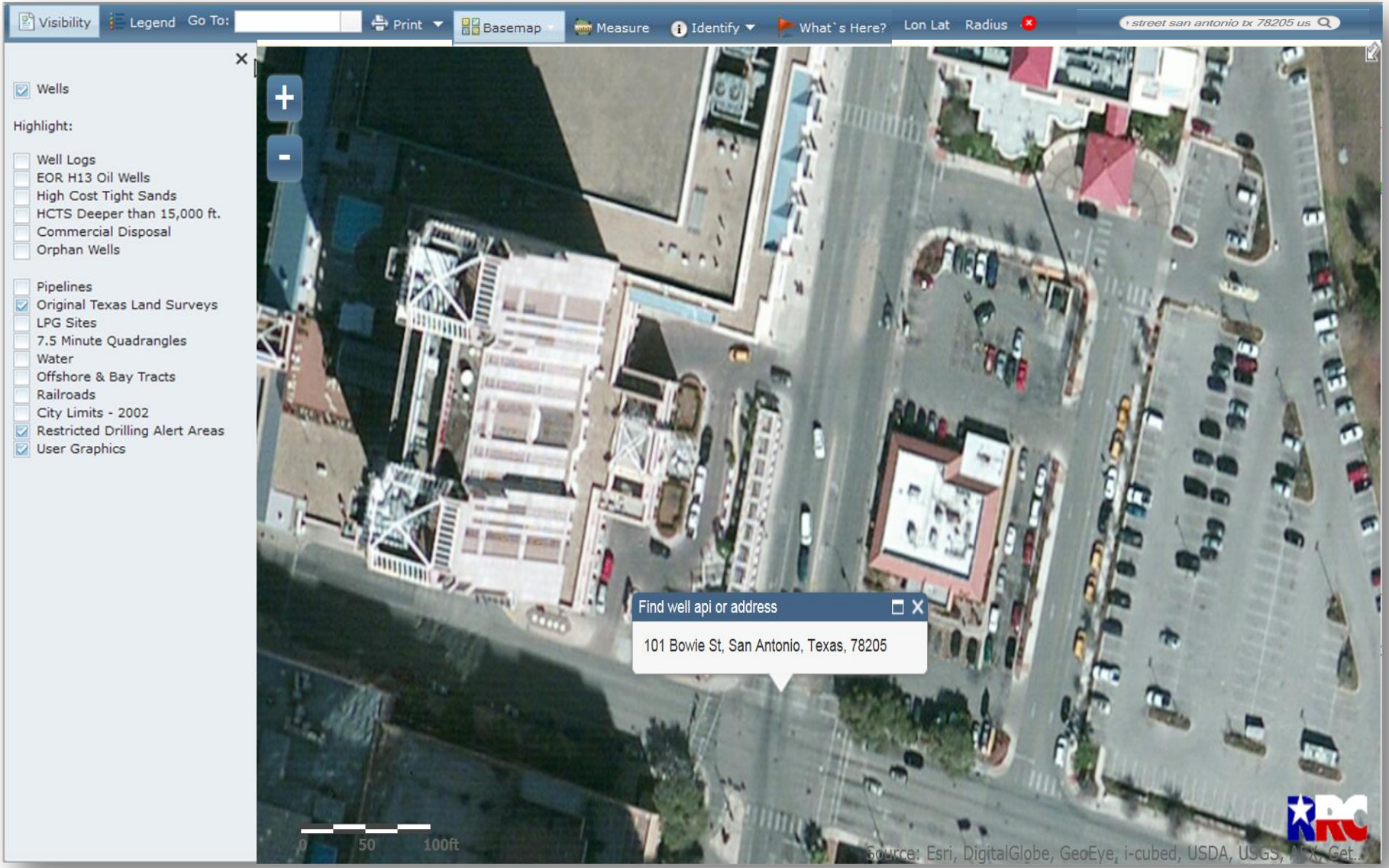


1. Click the **Radius** button in the toolbar. The *Radius* dialog box displays.
2. In the *Buffer Size* field, enter the radius distance.
   IMPORTANT: Depending on the *Buffer Size* you enter, you may have to zoom in to select a point.
3. In the map, click the location to draw the radius. The radius displays around the point.

Delete Graphics Tool



Search Window Tool



For more information contact:

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Mark Maddox	512-463-1834
Patrick Maxwell	512-463-5289